

# Method and Apparatus For Electrical Commoning of Circuits

## Abstract

Improved methods and apparatus is disclosed for electrical testing of electronic circuits such as those existing in microcircuit devices including chip carriers, printed circuit boards and substrates. The invention provides for the testing of the continuity of electronic circuits in progressively smaller devices having increased density of circuits and having pads closely spaced. A quasi-fluidized bed of conductive particles is provided for effectively contacting pads on a first side of a substrate. Pads on another side of the substrate which are connected to the pads on the first side are then contacted by a test device. The circuit interconnecting respective pads on the two sides of the substrate can then be assessed for electrical continuity.